

## ***Recent Petroleum News and Outside Analyses:***

### **Refining News:**

- January 8, 2015, ExxonMobil reports unplanned flaring at the Torrance, CA refinery. The refiner has been engaged in planned maintenance on processing units that include a vacuum gasoil hydrotreater and a hydrogen unit since early January.
- EIA released analysis on January 15, 2015 covering changes in regional refining crude oil slates, which can be found at: <http://www.eia.gov/todayinenergy/detail.cfm?id=19591>. Analysis concludes that Gulf Coast refineries are currently the most affected by increased domestic production in crude oil, since domestic crude oil inputs to those refineries increased more than other areas.

### **State and Federal Policy Change News:**

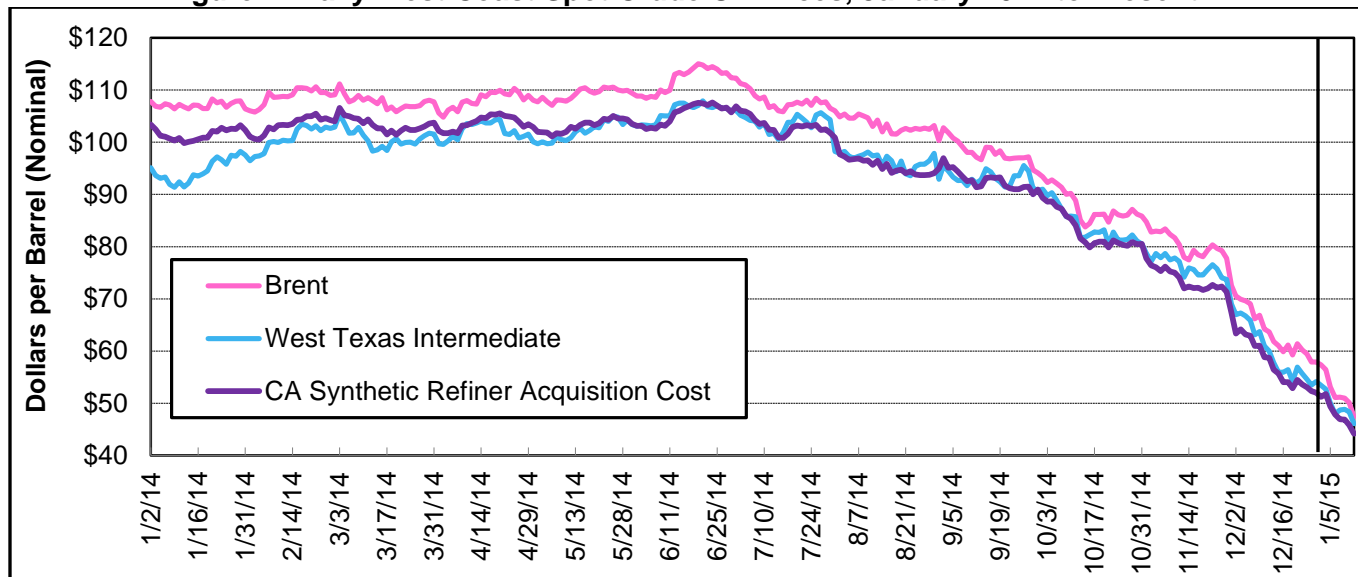
- January 1, 2015, the \$1.00 per gallon biodiesel blender's tax credit and \$1.01 per gallon cellulosic biofuels tax credit expires. These credits had expired in 2013, but were renewed on Dec. 19, 2014 to retroactively cover the entirety of 2014 as part of a congressional tax extender package.
- January 1, 2015, fuels distributors in California will be responsible for offsetting carbon emissions under California's cap-and-trade greenhouse gas (GHG) emissions program, referred to as Fuels-Under-The-Cap (FUTC).

### **Pricing Analysis:**

- EIA released analysis on January 6<sup>th</sup>, 2015 covering the recent drop in crude oil prices, which can be found at: <http://www.eia.gov/todayinenergy/detail.cfm?id=19451>. Analysis concludes that the drop is a result of world crude oil production outpacing world consumption.

## Crude Oil Prices

**Figure 1: Daily West Coast Spot Crude Oil Prices, January 2014 to Present**



Source: Energy Information Administration and Oil Price Reporting Service

Crude oil prices peaked in 2014 during the third weekend in June. Brent prices reached \$115.06 a barrel on June 19 and the California Synthetic Refiner Acquisition Cost<sup>1</sup> (Syn RAC) of crude reached its high of \$107.62 a barrel on June 24. Over the next 6 months, Brent fell at an average of 0.5 percent a day for a total decline of 51 percent (June 19, 2014 to January 2, 2015). Likewise California's Syn RAC crude prices declined 52 percent (June 24, 2014 to January 2, 2015), an average rate of 0.55 percent a day. These declines in crude oil prices appear across all crude oil streams displayed in Figure 1 and translate into lower input costs for refinery operations.

Per EIA analysis, crude oil prices appear to be dropping from a combination of stagnating world consumption of crude oil products and increased production of crude oil, (up 1.2 million barrels a day in 2014<sup>2</sup>). World liquid fuels production exceeded consumption in each quarter of 2014. In previous years this had not happened for more than two quarters. Energy Commission analysts have also noticed increases in the relative strength of the U.S. dollar on the international exchange markets. Using the FRED<sup>3</sup> index of the U.S. dollar against the major currencies, the dollar's purchasing power has grown 13.5 percent from June 19, 2014 to January 9, 2015. A stronger U.S. dollar means less currency is needed to purchase a foreign commodity on the international market, translating to lower crude oil prices in U.S. dollar denominations. Both increased production and strengthening dollar are likely contributing to lower crude oil prices.

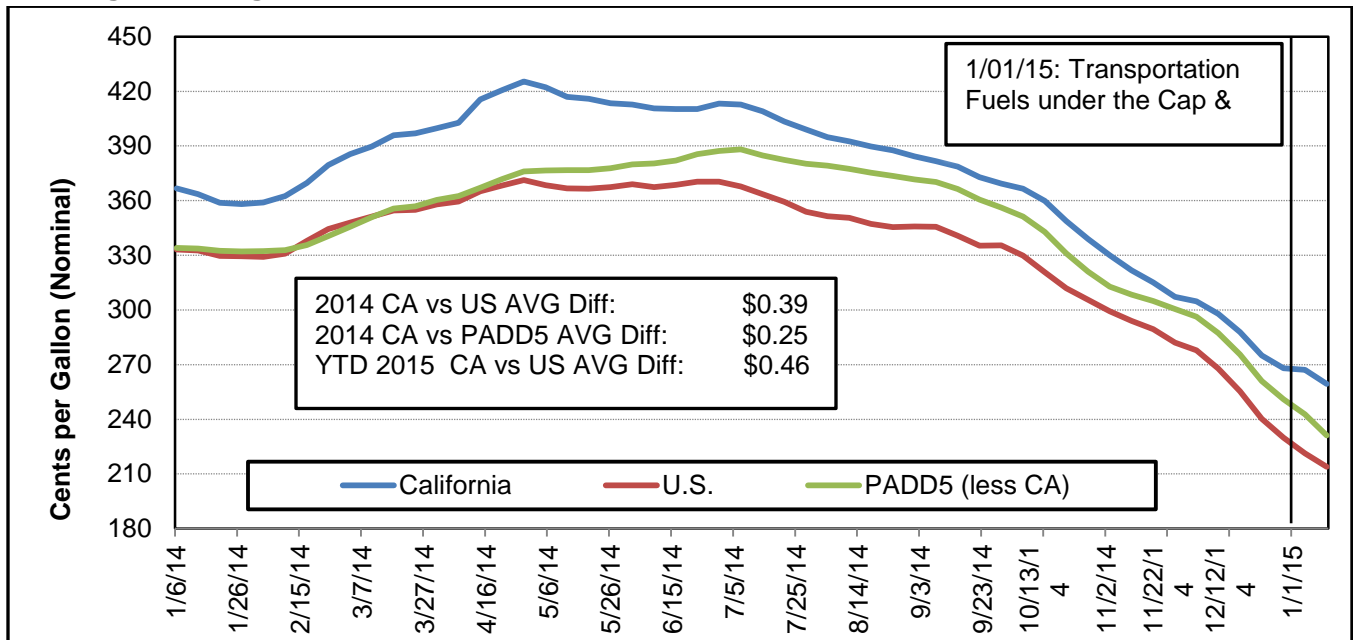
<sup>1</sup> CA Synthetic Refiner Acquisition Cost was created as a proxy to determine the average price of crude oil for California refineries. It is created using California refinery input proportions of California crude, Alaskan crude, and foreign crude, then multiplying those proportion by San Joaquin Valley, Alaskan North Slope, and Brent crude oil prices respectively.

<sup>2</sup> EIA analysis January 6, "Crude oil prices down sharply in fourth quarter of 2014": <http://www.eia.gov/todayinenergy/detail.cfm?id=19451>

<sup>3</sup> Federal Reserve Bank of St. Louis (FRED)

## Gasoline and Diesel Retail Prices, Margins, and Spot Differentials:

**Figure 2: Regular Grade Gasoline Retail Prices, California vs. PADD5 vs. United States**



Source: Energy Information Administration

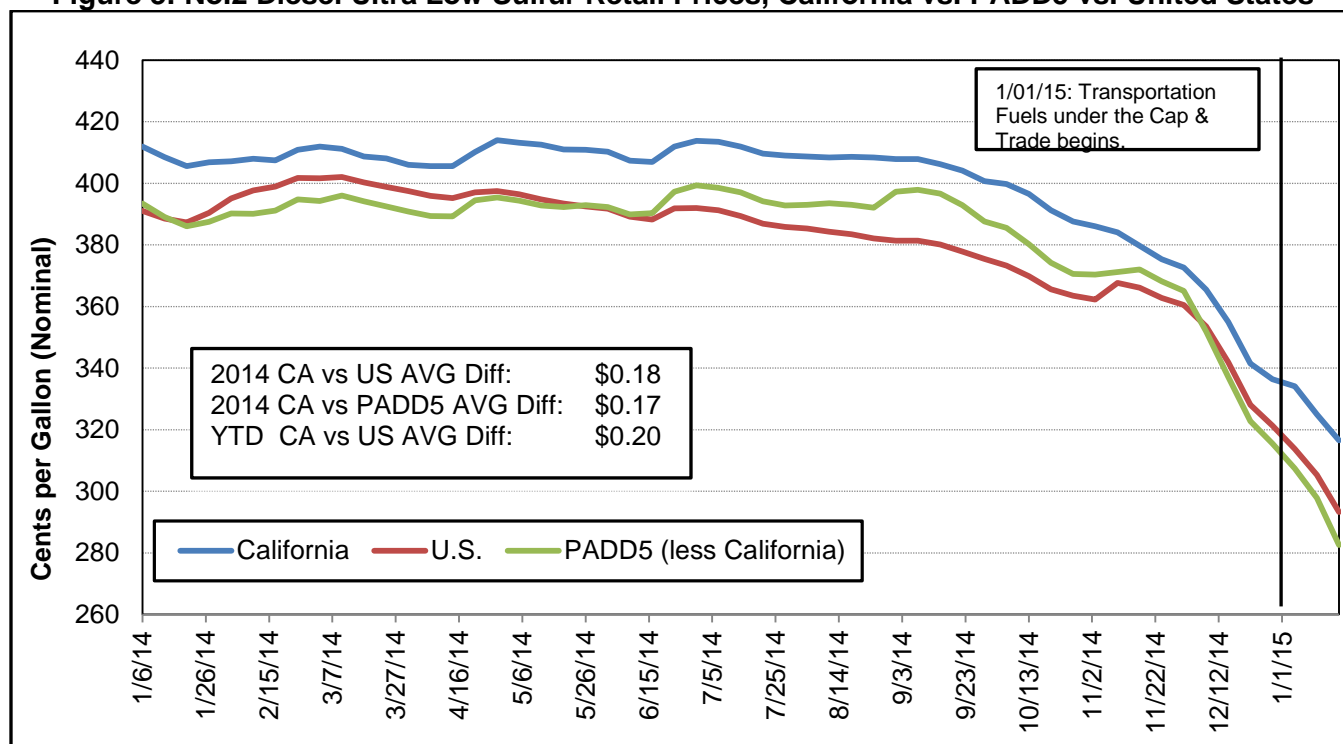
Gasoline prices have roughly mirrored the drop in crude oil prices during the last six months. The 2014 high in average weekly California retail gasoline prices occurred on the week of May 12 at \$4.25 a gallon. This was the same week as the 2014 U.S. retail gasoline high of \$3.71. For week of January 12, 2015, both prices have fallen to new recent lows of \$2.59 a gallon for California and \$2.14 a gallon for the U.S. This is a 39 percent decline for California and a 42 percent for U.S. gasoline prices from the 2014 high recorded price.

The average difference between California and U.S. retail gasoline prices was \$0.39 in 2014, while the average difference in January 2014 was \$0.31. Recently, this difference has risen to \$0.46 a gallon for 2015 year-to-date (January 1 to January 19), which is a \$0.07 increase when compared to the average difference for 2014, and a \$0.15 increase over the January 2014 average. Both increases in the gasoline differential indicate that California prices are elevated in comparison to U.S. prices.

Compared to the rest of the PADD 5 states minus California (West Coast)<sup>4</sup>, the difference has not been as large. In 2014, the difference between the West Coast and California was \$0.25 and was \$0.29 for this month last year. Currently, this difference has risen in comparison to the 2014 average by \$0.01 (January 1 to January 19 average was \$0.26), but is \$0.03 less than this time last year. Comparison of California to West Coast gasoline differentials indicate that California gasoline is neither elevated nor depressed when compared to 2014 differences.

<sup>4</sup> PADD stands for Petroleum Administration for Defense Districts. PADD 5 includes the states of Hawaii, Alaska, Washington, Oregon, California, Nevada, and Arizona. West Coast is being defined here as all PADD 5 states minus California.

**Figure 3: No.2 Diesel Ultra Low Sulfur Retail Prices, California vs. PADD5 vs. United States**



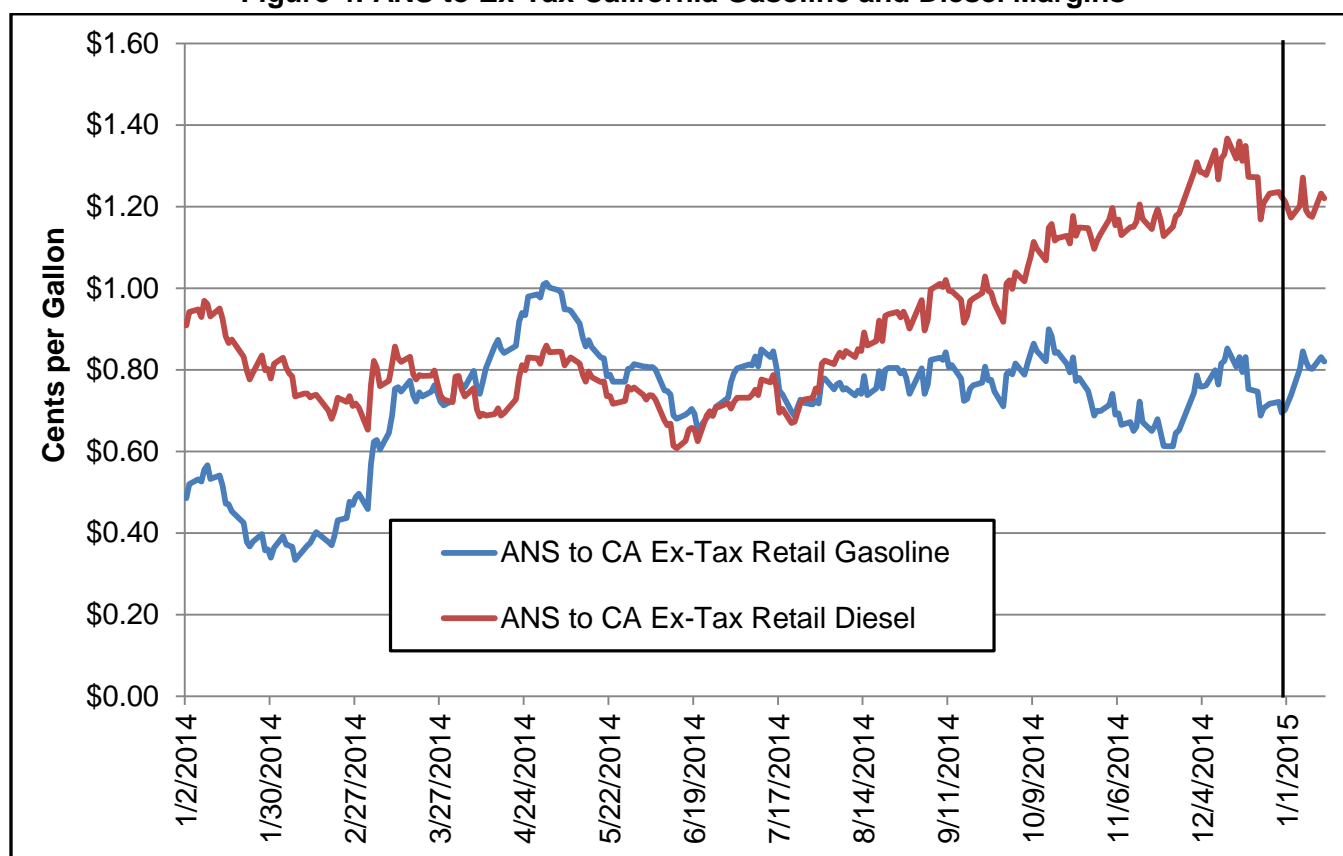
Source: Energy Information Administration

Similar to gasoline, retail prices for diesel have also followed the drop in crude oil prices, but not to the same extent in percentage terms. In 2014, California's highest diesel prices occurred in the week of May 12 at \$4.14. The high in retail diesel prices for the U.S. occurred two months sooner in the week of March 24 at \$4.02. While gasoline prices have decreased 39 percent from their 2014 high to the week of January 12, the retail diesel price in California has only decreased 22 percent and the U.S. retail diesel price has decreased 24 percent. The average U.S. retail diesel price was \$2.93 and the average California retail diesel price was \$3.17 on the week of January 19, 2015.

The average difference between California and U.S. retail diesel prices was \$0.18 in 2014, while the average difference for January 2014 was \$0.19. Recently, this difference has risen to \$0.20 a gallon for year-to-date 2015, which is a \$0.02 increase when compared to the average difference for 2014 and a \$0.01 increase over the January 2014 average. These diesel differential comparisons indicate a slight rise in California diesel prices compared to the U.S.

Compared to the rest of the West Coast, the change in retail diesel differentials has been larger than changes in gasoline differentials. In 2014, the average difference between the West Coast and California was \$0.17 and was \$0.19 for January 2014. Between January 1 and January 19, this difference has risen to \$0.27, which is an increase of \$0.10 over the 2014 average and a \$0.08 increase over the January 2014 average. Both increases in the diesel differentials indicate that California prices are elevated in comparison to West Coast prices.

**Figure 4: ANS to Ex-Tax California Gasoline and Diesel Margins**



Source: Energy Information Administration and Oil Price Reporting Service

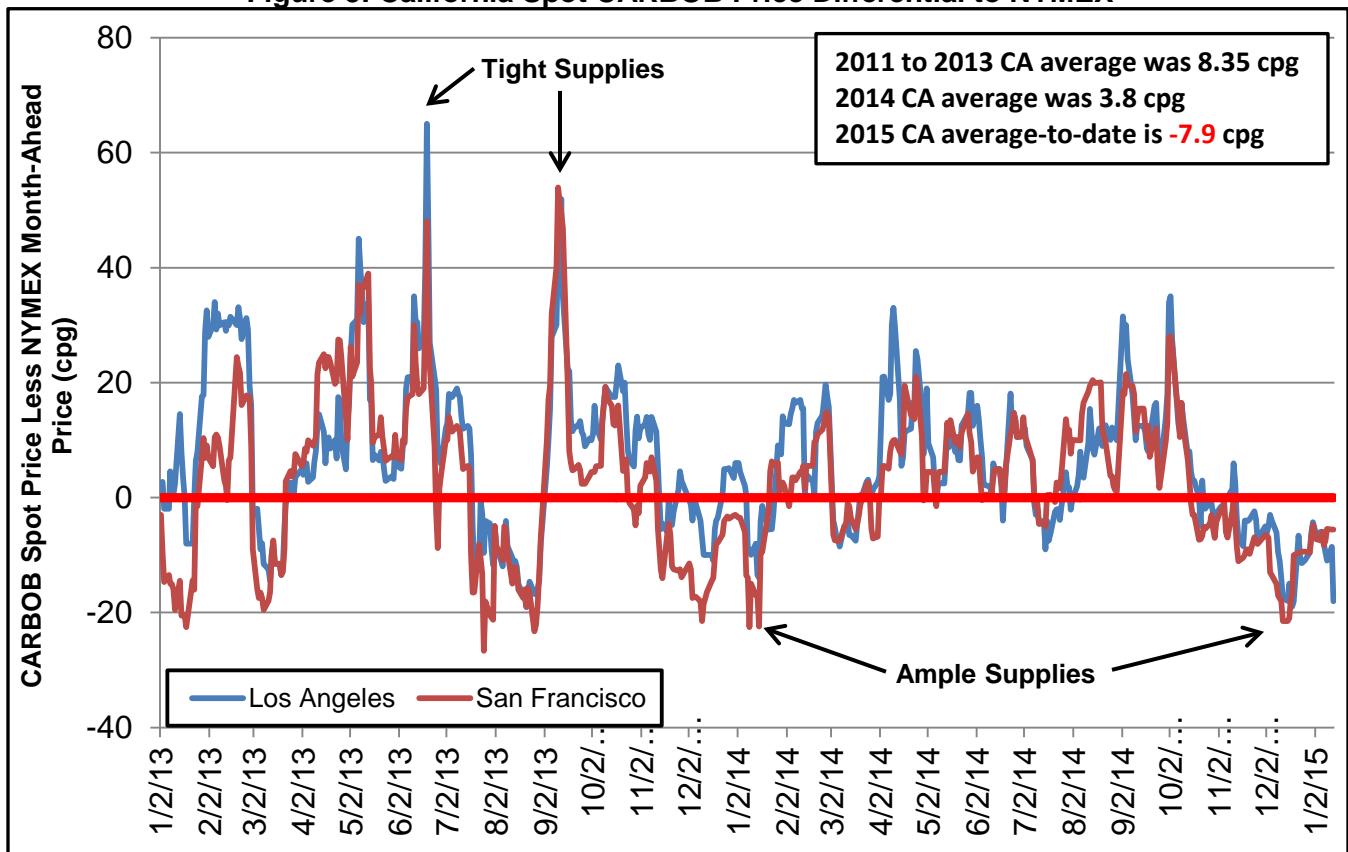
In 2014, differences between daily Alaska North Slope (ANS) spot prices<sup>5</sup> and daily ex-tax<sup>6</sup> California retail regular gasoline and diesel prices ranged from \$0.33 (2/10) to \$1.01 (5/2) for gasoline and \$0.61 (6/16) to \$1.37 (12/15) for diesel. The transition to summer blend gasoline and increased seasonal demand for driving likely contributed to the increases in the ANS to ex-tax retail gasoline margin from February to May (\$0.33 to \$1.01). The diesel margin bottomed out in June, then steadily rose to just before the end of the year, perhaps in part because of increased shipping demand from the holiday season.

Since the beginning of 2015, the ANS to ex-tax retail gasoline margin has averaged \$0.81, which is an increase of \$0.09 over the 2014 average of \$0.72 and a \$0.37 increase over the average margin for January 2014 of \$0.44. The average ANS to ex-tax retail diesel margin has averaged \$1.21 for January 2015, an increase of \$0.31 over the 2014 average of \$0.90 and an increase of \$0.35 over the month last year (\$0.86). In previous crude oil price decreases, margins tend to increase as retail prices fail to decrease at the same rate as the crude oil prices. Thus, recent increases in margins may only be a result of retail prices failing to adjust at the same rate as ANS prices.

<sup>5</sup> Alaska North Slope (ANS) crude oil is a staple input into California refineries and is being used in this case as a proxy for average input price.

<sup>6</sup> An ex-tax price is the what the price of gasoline or diesel would be if state and federal taxes were removed from the final retail price.

**Figure 5: California Spot CARBOB Price Differential to NYMEX**



Source: Energy Information Administration and Oil Price Reporting Service

Differentials between traded CARBOB<sup>7</sup> spot pipeline prices and NYMEX<sup>8</sup> RBOB<sup>9</sup> prices can provide information regarding the current disposition of supply and demand for gasoline and diesel in the California market relative to the rest of the nation. Smaller than average difference or negative differences would imply that the California market is well supplied. Higher than average differences imply inventories are tight and extreme differences imply shortages may be occurring. The average three-year (2011 to 2013) differential of LA CARBOB to the NYMEX RBOB was \$0.099. The same average differential for the SF CARBOB to NYMEX was \$0.068, while for the composite LA/SF CARBOB to NYMEX three-year (2011 to 2013) differential was \$0.835.

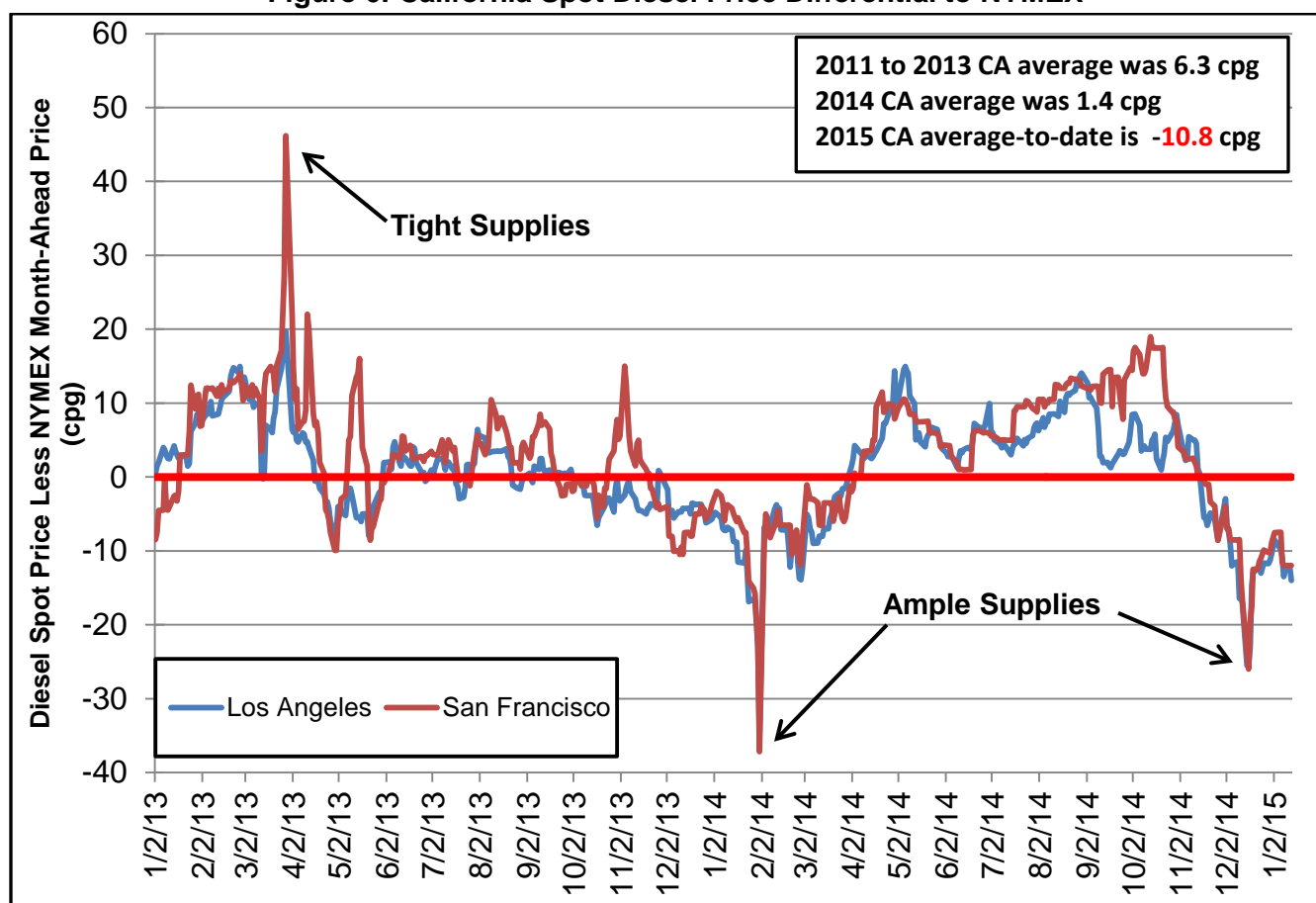
From January 2, 2015 to January 13, 2015, the LA CARBOB spot price has been trading at an average of -\$0.92 to the NYMEX RBOB. SF CARBOB has been trading at an average of -\$0.66 to the NYMEX RBOB. Both of these differentials imply that the California market is currently well supplied with gasoline. Current negative spot market differentials indicate California's gasoline market has ample supply.

<sup>7</sup> CARBOB California Reformulated Blendstock for Oxygenate Blending and that this is the base gasoline that is blended with ethanol to create finished gasoline for dispensing at service stations.

<sup>8</sup> NYMEX denotes the New York Mercantile Exchange

<sup>9</sup> RBOB is motor gasoline blending components intended for blending with oxygenates to produce finished reformulated motor gasoline meeting federal standards.

**Figure 6: California Spot Diesel Price Differential to NYMEX**



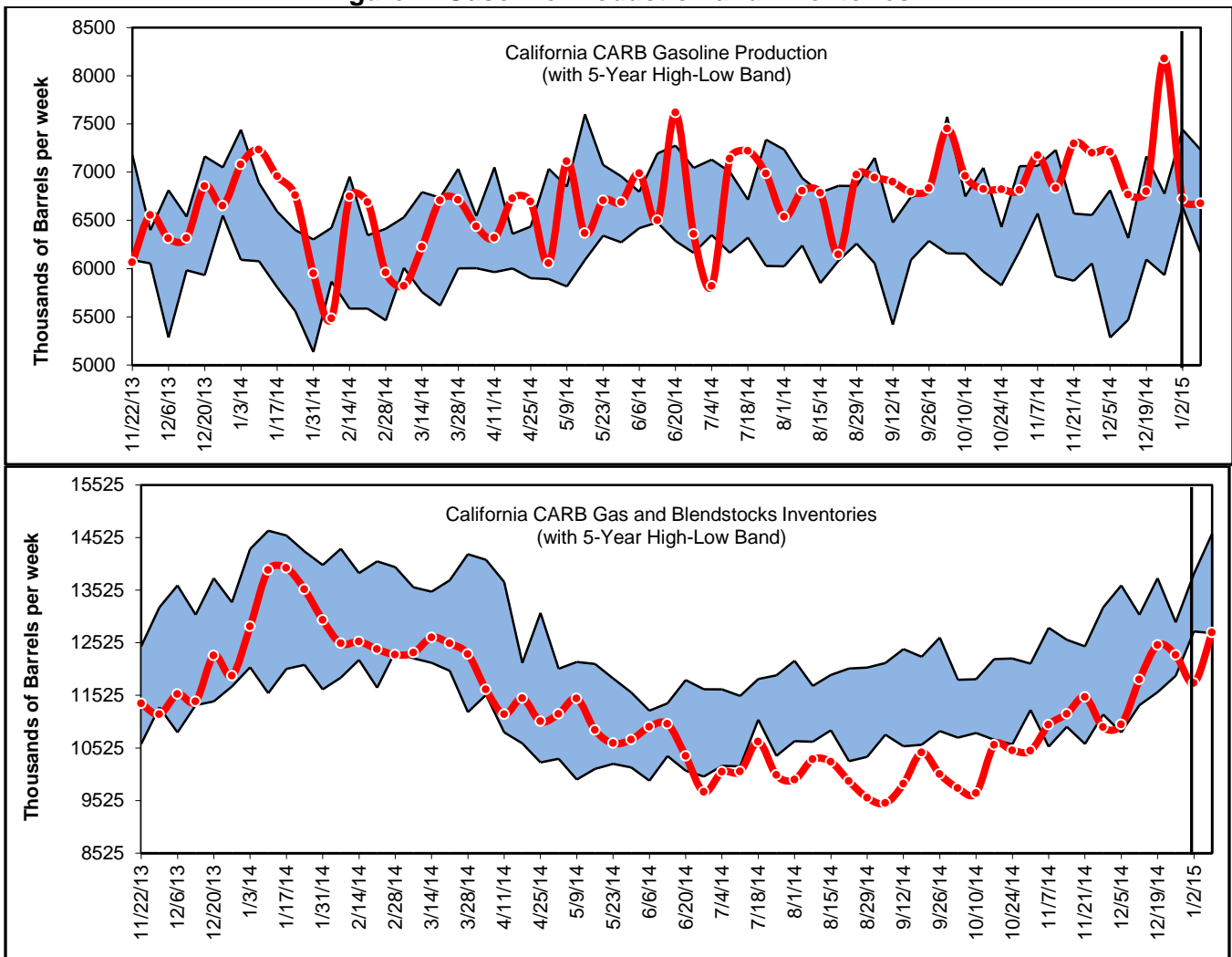
Source: Energy Information Administration and Oil Price Reporting Service

Average differences between the daily LA CARB Diesel spot price and NYMEX No.2 Heating Oil Futures Contract from 2011 to 2013 was 5.1 cents, SF CARB Diesel to NYMEX was \$0.74, and average LA/SF CARB Diesel spot price to NYMEX was \$0.63. In 2014, the average LA Diesel/NYMEX differential was \$0.03 which was a 4.8 cent decrease from the 2011 to 2013 average. The average SF CARB Diesel/NYMEX differential for 2014 was \$0.024 which was a \$0.05 decrease from the 2011 to 2013 average. For most of Figure 6, these differentials appear to be closely linked, but from September 2014 to October 2014 they deviated from that linkage. This separation resulted in the SF Diesel differential averaging \$0.079 more than the LA one, with the SF Differential getting as large as \$0.165 more than the LA differential (October 20, 2014).

From January 2, 2015 to January 13, 2015, the LA CARB Diesel spot price has been trading at an average of -\$0.111 to the NYMEX and SF CARB Diesel has been trading at an average of -\$0.1025 to the NYMEX. Both of these differentials imply that the California market is currently well supplied with diesel. Current negative spot market differentials indicate California's diesel market has ample supply.

## California Gasoline and Diesel Production and Inventories

**Figure 7: Gasoline Production and Inventories**

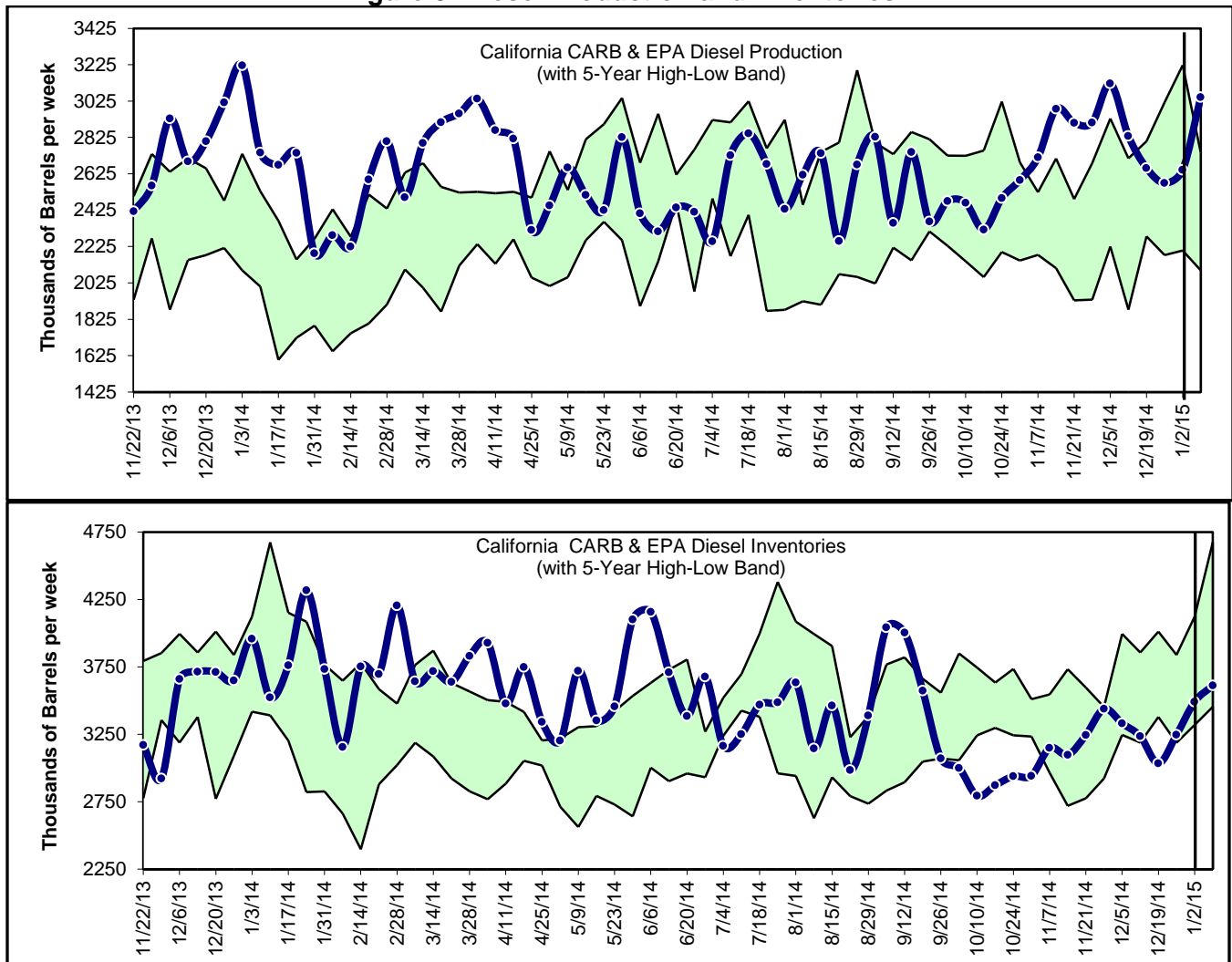


Source: Petroleum Industry Information Reporting Act data

California production and inventory levels for gasoline in 2014 have typically been in or near the previous 5-year band of recorded high and low values. From January 2014 to December 2014, California production totals fluctuated between roughly 5.5 and 7.5 million barrels of gasoline per week. One large deviation occurred on the week of December 26, with roughly 8.2 million barrels of gasoline being produced, but returned to the 5-year band the next week.

California inventories of gasoline fluctuated between 9.5 and 14 million barrels in 2014. During the period of late June to early November, inventories were below 5-year norms with a low of 9.47 million barrels recorded in the week of September 9. This appears to have had little influence on the gasoline market during that time as NYMEX to CA spot price differentials were at average levels.

**Figure 8: Diesel Production and Inventories**



Source: Petroleum Industry Information Reporting Act data

California production and inventory levels for diesel in 2014 were above the 5-year band of recorded high and low values in the early part of 2014, as well as in November and December 2014. California diesel production totals fluctuated between roughly 2.2 and 3.2 million barrels per week. A new 5-year high of 3.2 million barrels of production was set the week of January 2, 2014. As a whole, production of diesel in 2014 appeared to be elevated with respect to the previous 5 years as production remained close to the 5-year highs throughout 2014.

California inventories of diesel fluctuated between 2.75 and 4.25 million barrels in 2014. At the beginning of 2014, diesel inventories stayed above or around the high end of the 5-year band. After the last week in September, diesel inventories moved closer to the bottom end of the 5-year high-low band. Neither inventory state seemed to influence prices much, as diesel spot differentials appear unaffected.